Description

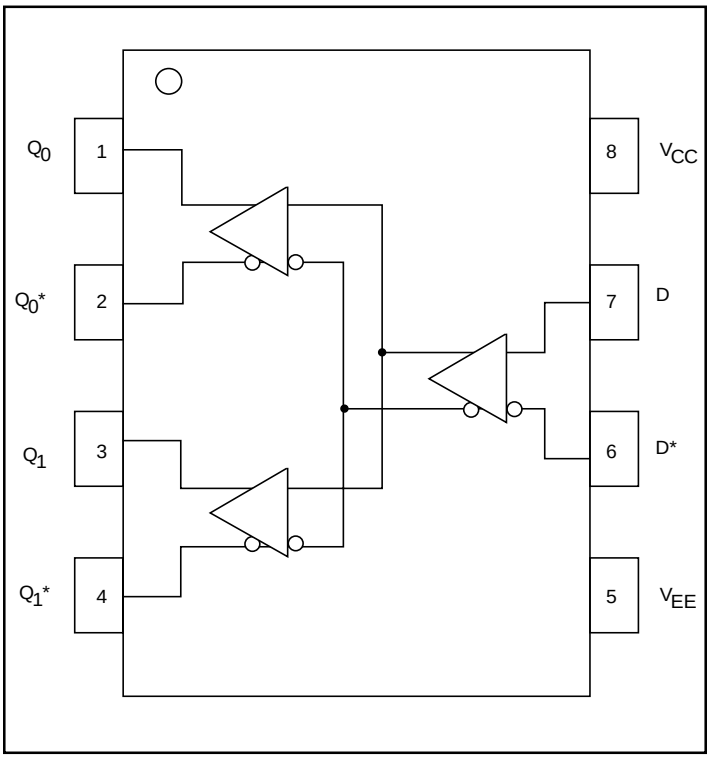
The SK10/100EL11W is a differential 1:2 fanout buffer. This device is fully compatible with MC10/100EL11 and MC100LVEL11. With output transition time much faster than the E111, the EL11W is ideally suited for those applications which require ultimate AC performance.

Under open input conditions, the pulldown resistors will force the Q_0 and Q_1 outputs low and Q_0* and Q_1* high.

Features

- Extended Supply Voltage Range: (VEE = –5.5V to –3.0V, VCC = 0V) or (VCC = + 3.0V to +5.5V, VEE=0V)
- High Bandwidth Output Transition
- 330 ps Propagation Delay
- 5 ps Skew Between Outputs
- Internal Input Pulldown Resistors
- Q Output will Default Low with Inputs Open or at V_{EE}
- New Differential Input Common Mode Range
- Fully compatible with MC10/100EL11 and MC10/100LVEL11
- ESD Protection of >4000V
- Industrial Temperature Range: –40°C to +85°C
- Available in both 8 Pin SOIC (150 mils) and MSOP (3mm x 3mm) Packages

Functional Block Diagram

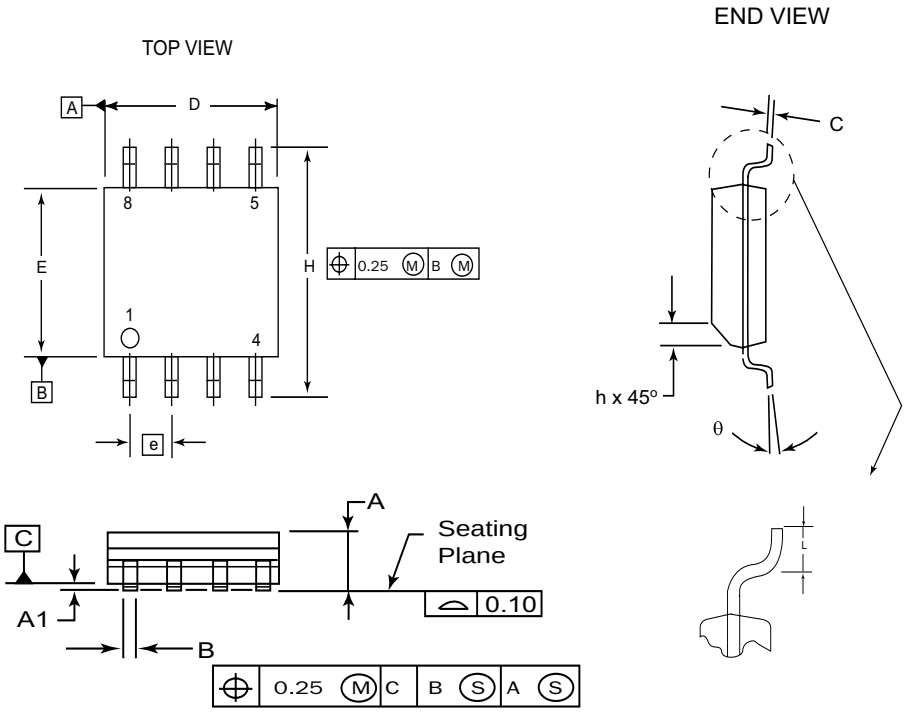


PIN Names

Pin	Function
D, D*	Differential data Inputs
Q0, Q0*, Q1, Q1*	Differential data Outputs

Package Information

8 Pin SOIC Package

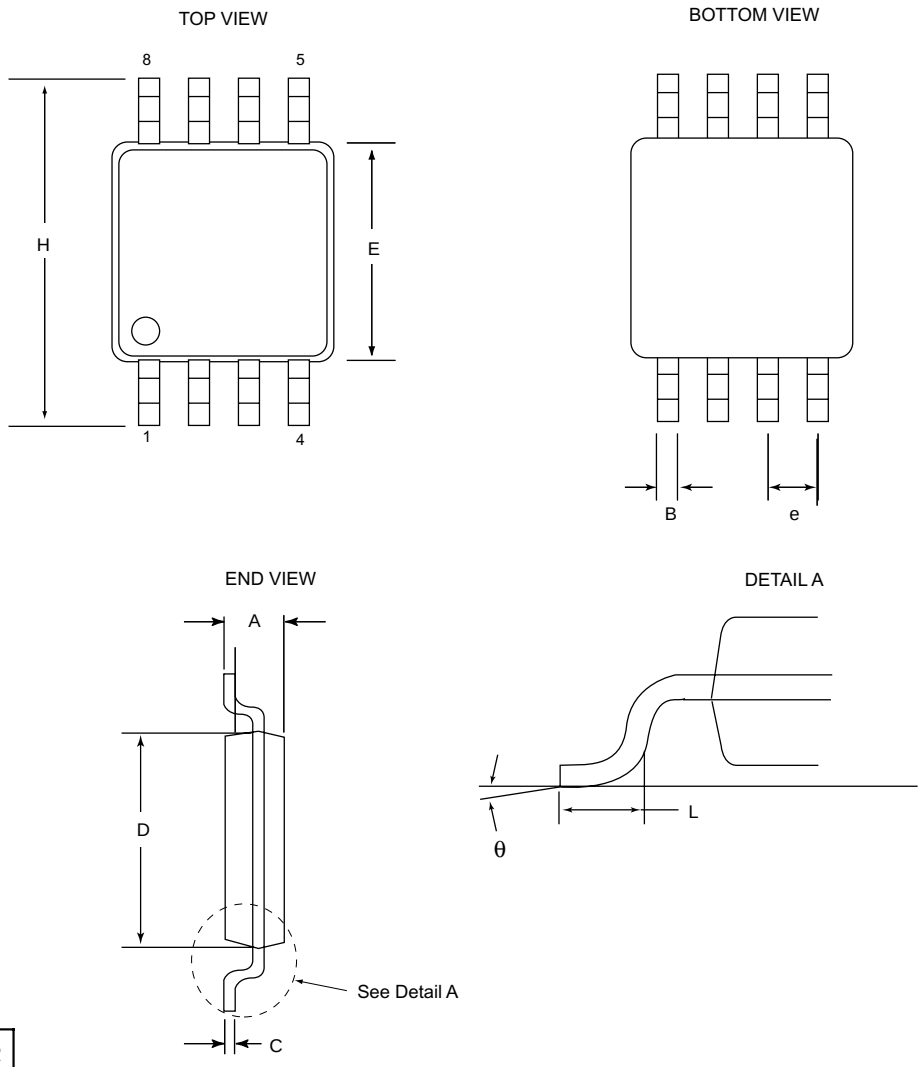


DIM	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.33	0.51
C	0.19	0.25
D	4.80	5.00
E	3.80	4.00
e	1.27 BSC	
H	5.80	6.20
h	0.25	0.50
L	0.40	1.27
θ	0°	8°

NOTES:
1. Dimensions are in millimeters.
2. Dimensions D and E do no include mold protrusion.
3. Maximum mold protrusion 0.15 per side.
4. Dimension B does not include Dambar protrusion. Allowable Dambar protrusion shall be 0.127 total in excess of the B dimension at maximum material condition.

Package Information *(continued)*

8 Pin MSOP Package



DIM	MILLIMETER	
	MIN	MAX
A	0.94	1.1
B	0.21	0.45
C	0.13	0.22
D	2.90	3.10
E	2.90	3.10
e	0.65 BSC	
H	4.7	5.1
L	0.4	0.7
θ	0°	6°

NOTES:
1. Dimensions are in mm.
2. Controlling dimension: mm
3. Dimension does not include mold flash or protrusions, either of which shall not exceed 0.20.

DC Characteristics

SK10/100EL11W DC Electrical Characteristics *(Notes 1, 2)*

(V_{CC} – V_{EE} = 3.0V to 5.5V; VOUT Loaded 50Ω to VCC – 2.0V)

Symbol	Characteristic	TA = –40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
I_{IN}	Input Current D, D*	- 150		150	- 150		150	- 150		150	- 150		150	µA
I_{EE}	Power Supply Current 10EL 100EL	 17 16	 24 25	 33 37	 17 16	 24 25	 33 37	 17 16	 24 25	 33 37	 17 16	 24 25	 33 37	 mA mA
$V_{CC} – V_{EE}$	Power Supply Voltage	3.0		5.5	3.0		5.5	3.0		5.5	3.0		5.5	V

AC Characteristics

SK10/100EL11W AC Electrical Characteristics *(Notes 1, 2)*

(V_{CC} – V_{EE} = 3.0V to 5.5V; VOUT Loaded 50Ω to VCC – 2.0V)

Symbol	Characteristic	TA = –40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
t_{PLH} t_{PHL}	Input to Output Delay Q_n, Q_n*	295	310	350	300	315	360	310	325	375	320	340	390	ps
t_{skew}	Within Device Skew[3] Duty Cycle Skew[4]		5 5			5 5	20 20		5 5	20 20		5 5	20 20	ps ps
V_{PP}	Minimum Input Swing[5]	150		1000	150		1000	150		1000	150		1000	mV
V_{CMR}	Common Mode Range[6]	VEE + 1.6		VCC - 0.4	VEE + 1.6		VCC - 0.4	VEE + 1.6		VCC - 0.4	VEE + 1.6		VCC - 0.4	V
t_r , t_f	Output Rise/Fall Times (20% to 80%) Q_n, Q_n*	130	160	240	135	165	250	140	170	260	145	175	270	ps

AC Characteristics *(continued)*

Notes:

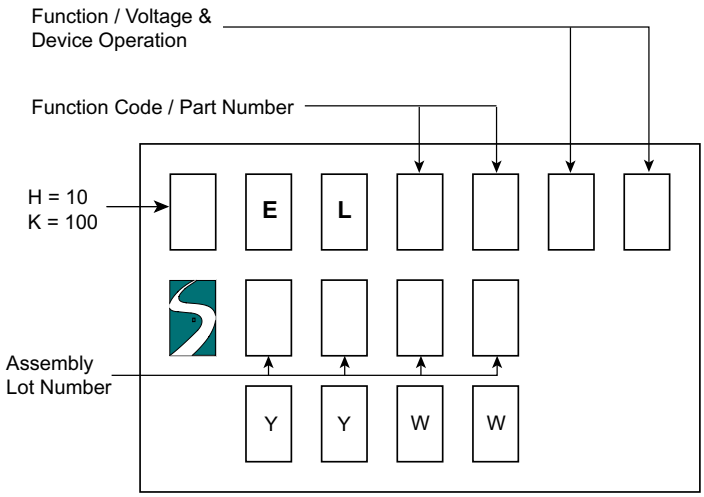
1. 10EL circuits are designed to meet the DC specifications shown in the table after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse airflow greater than 500 lfpm is maintained. Outputs are terminated through a 50Ω resistor to VCC -2.0V except where otherwise specified on the individual data sheets.
2. 100K circuits are designed to meet the DC specifications shown in the table where transverse airflow greater than 500 lfpm is maintained.
3. Within-device skew defined as identical transitions on similar paths through a device.
4. Duty cycle skew is the difference between a T_{PLH} and T_{PHL} propagation delay through a device.
5. Minimum input swing for which AC parameters guaranteed.
6. CMR range is referenced to the most positive side of the differential input signal. Normal operation is obtained if the high level falls within the specified range and the peak-to-peak voltage lies between $VPP_{(min)}$ and 1V. The lower end of the CMR range varies 1:1 with VEE and is equal to VEE + 1.6V.
7. For standard ECL DC specifications, refer to the ECL Logic Family Standard DC Specifications Data Sheet.
8. For part ordering descriptions, see HPP Part Ordering Information Data Sheet.

Ordering Information

Ordering Code	Package ID	Temperature Range
SK10EL11WD	8-SOIC	Industrial
SK10EL11WDT	8-SOIC	Industrial
SK100EL11WD	8-SOIC	Industrial
SK100EL11WDT	8-SOIC	Industrial
SK10EL11WMS	8-MSOP	Industrial
SK10EL11WMST	8-MSOP	Industrial
SK100EL11WMS	8-MSOP	Industrial
SK100EL11WMST	8-MSOP	Industrial
SK10EL11WU	Die	
SK100EL11WU	Die	

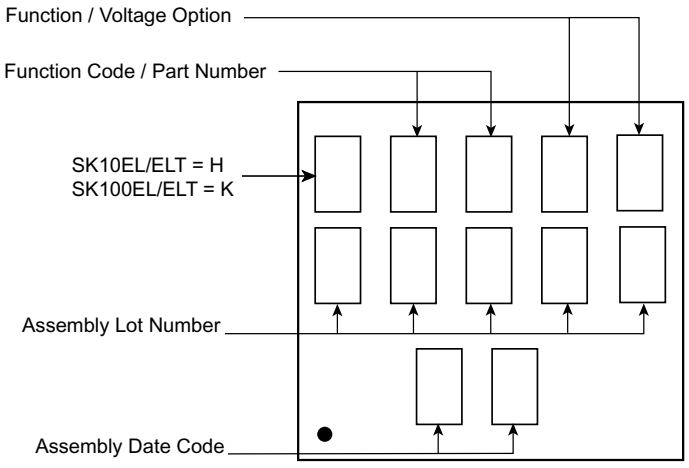
Marking Information

8 PIN SOIC PACKAGE



YY: Last two digits of the Year
WW: Working Week

8/10 PIN MSOP PACKAGES



Contact Information

Semtech Corporation
High-Performance Products Division

Division Headquarters
10021 Willow Creek Road
San Diego, CA 92131
Phone: (858) 695-1808
FAX: (858) 695-2633

Marketing Group
1111 Comstock Street
Santa Clara, CA 95054
Phone: (408) 566-8776
FAX: (408) 727-8994

WWW.ALLDATASHEET.COM

Copyright © Each Manufacturing Company.

All Datasheets cannot be modified without permission.

This datasheet has been download from :

www.AllDataSheet.com

100% Free DataSheet Search Site.

Free Download.

No Register.

Fast Search System.

www.AllDataSheet.com